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August 15, 2012

Ms. Tamara Ohl U.S. Environmental Protection Agency – Region V 77 West Jackson Blvd. (LU-9J) Chicago, IL 60604

RE: Interim Stabilization Measures Implementation Report – East Lake SWMA
Areas of Interest at ELA-1 and ELA-3
U. S. Steel – Gary Works
IND 005 444 062

Dear Ms. Ohl:

Enclosed please find three (3) hard copies and four (4) electronic copies of the Interim Stabilization Measures Implementation Report. East Lake SWMA. Areas of Interest at ELA-1 and ELA-3.

This report documents stabilization measure activities at ELA-1 and ELA-3 conducted in accordance with the approach presented in the following:

- Interim Stabilization Workplan. East Lake SWMA. Areas of Interest ELA-1 and ELA-3, submitted to the USEPA on June 4, 2010 ("ISM Workplan") and conditionally approved on July 20, 2010.
- ISM Workplan Addendum (*Interim Stabilization Measure Workplan. East Lake SWMA. ELA-3 Addendum*), submitted on March 24, 2011 to address conditions in USEPA's July 20, 2010 Conditional Approval Letter.

As indicated in the Monthly Progress Report No. 22 (submitted on June 15, 2012), ISM activities have been fully implemented as of May 2012. Submittal of this report meets requirements outlined in Attachment III of the Order.

Please feel free to contact me if you have any questions.

Very truly yours,

Mul R. Rayana

Mark R. Rupnow

### **Enclosures**

CC: F. T. Harnack w/o enc. D. L. Smiga w/o enc. R. F. Casselberry R. H. Lange w/ enc. w/o enc. T. Ruffner w/ enc. K. T. Stetter w/ enc.

w/ enc., Electronic R. Jean (IDEM)

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H. Kuss (IDEM) S. Quadri (URS) w/ enc.

# GARY WORKS FACILITY-WIDE RCRA CORRECTIVE ACTION PROGRAM

Interim Stabilization Measures Implementation
Report -East Lake SWMA
Areas of Interest at ELA-1 and ELA-3

Prepared for:



**Gary Works** 

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### **ACRONYM LIST**

<u>Acronym</u>	<u>Definition</u>
AOC	Area of Concern
AOI	Area of Interest
CAMU	Corrective Action Management Unit
CASP	Carbon Alloy Synthesis Process
CQAP	Construction Quality Assurance Plan
EL SWMA EP	East Lake Solid Waste Management Area Extraction Procedure
IDEM ISM	Indiana Department of Environmental Management Interim Stabilization Measure
msl	Mean Sea Level
OMP	Operation and Maintenance Plan
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RISC	Risk-based System of Closure
SSL	Site-specific Screening Level
SVOC	Semi-volatile Organic Compound
SWMA	Solid Waste Management Area
TCLP	Toxicity Characteristic Leaching Procedure
TLV	Threshold Limit Value
USEPA	United States Environmental Protection Agency
USS	United States Steel Corporation
VOC	Volatile Organic Compound



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### 1.0 INTRODUCTION

The United States Environmental Protection Agency (USEPA) issued an Administrative Order of Consent (Order) (USEPA Docket Number 88H-5-00-001) to United States Steel Corporation (USS) on October 23, 1998 (USEPA, 1998). The Order contains requirements to conduct a Facility-Wide Resource Conservation and Recovery Act (RCRA) Corrective Action Program at USS' Gary Works facility in Gary, Indiana (Facility) to investigate and remediate, where necessary, Solid Waste Management Areas (SWMAs).

One of the nine SWMAs at the Facility is the East Lake (EL) SWMA. The EL SWMA, which encompasses approximately 524 acres (**Figure 1**), incorporates the portion of the Facility north of the Coke Plant SWMA, east of the Vessel Slip and Turning Basin, and west of the Facility's eastern property boundary.

A document entitled *Addendum to the East Side RCRA Facility Investigation Report* (East Side RFI Report Addendum) (USS, 2010a) was submitted for USEPA's review on March 8, 2010 and revised and resubmitted on June 4, 2010 (USS, 2010b) to document the laboratory analytical results collected at the Area of Interest (AOI), a parcel that is approximately 23 acres in size and located near the northwest portion of the EL SWMA within the footprint of Area of Concern (AOC) ELA-1 (**Figure 2**). The objectives of the AOI investigation were to characterize the environmental conditions within the AOI and collect information necessary for future decision-making as related to the planned Carbon Alloy Synthesis Process (CASP) module construction activities at AOI ELA-1.

In accordance with the requirements specified in Attachment III of the Order, the *Interim Stabilization Workplan. East Lake SWMA. Areas of Interest ELA-1 and ELA-3*, was submitted to the USEPA on June 4, 2010 ("ISM Workplan", USS, 2010c) to present USS' proposed approach to implement interim stabilization measures (ISM) for the AOI-ELA-1 and portions of the AOC ELA-3.

ISM activities began in August 2010, following the conditional approval of the ISM Workplan by the USEPA on July 20, 2010. To meet the request specified in the conditional approval letter, an ISM Workplan Addendum (*Interim Stabilization Measure Workplan. East Lake SWMA. ELA-3 Addendum*) was submitted on March 24, 2011 (USS, 2011a) to address ELA-3 approval conditions.

ISM activities outlined in the ISM Workplan (USS, 2010c) and ISM Workplan Addendum (USS, 2011a) have been fully implemented, as indicated in the Monthly Progress report No. 22, dated June 15, 2012. To meet requirements outlined in Attachment III, of the Order, this *ISM Implementation Report* was prepared to document the implementation process.



### 1.1 Background

Most of the AOI overlaps with the southwestern portion of a material handling and storage area that has been designated as an AOC ELA-1 (Outside Revert Storage Blend Piles) for the Corrective Action process at the Facility. ELA-1 is an active area, in use since 1979. The revert storage blend piles contain either raw materials or recycled by-products for use in the No. 3 Sinter Plant. Two new CASP modules are being constructed at the AOI ELA-1.

The AOC ELA-3 (Blowdown Sludge Dewatering Area), located north of SWD-1 and south of ELA-1, is comprised of two dewatering areas – the eastern dewatering area is approximately 179 feet long by 60 feet wide by 20 feet deep and the western dewatering area is approximately 163 feet long by 52 feet wide by 20 feet deep. The blowdown sludge has been removed from ELA-3. As part of the ISM, the western dewatering area at ELA-3 has been developed as a storm water retention pond for the CASP Area at ELA-1.

The AOI investigation was implemented based on the scope of work outlined in the *East Side Sampling and Analysis Plan Addendum* (East Side SAP Addendum), submitted for USEPA review on December 23, 2009 (USS, 2009a). The approach used in the AOI investigation is in accordance with the requirements as specified in the *East Side Conditional Approval Letter*, issued by the USEPA on January 26, 2010 (USEPA, 2010). The results of the AOI investigation were submitted to USEPA on March 8, 2010 in the East Side RFI Report Addendum (USS, 2010a). The East Side RFI Report Addendum was revised to incorporate additional data collected during a subsequent investigation in May 2010 and resubmitted on June 4, 2010 (USS, 2010b).

### 1.2 Organization of the ISM Workplan

The remainder of this report is organized to document ISM implementation activities.

- Section 2 provides the objectives of the ISM.
- **Section 3** provides the ISM implementation program.
- Section 4 presents the design plans and specifications.
- Section 5 references the health and safety plan implemented during the ISM.
- Section 6 presents the sampling activities conducted and the results of the laboratory analyses.
- Section 7 presents the conclusion.
- **Section 8** presents the references used in the preparation of this report.



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#### 2.0 ISM OBJECTIVES

The objective of the ISM was to perform appropriate stabilization measures in ELA-1 and ELA-3 prior to construction to ensure that pathways to residual chemicals have been rendered incomplete to protect human health and the environment during the construction activities as well as during on-going industrial activities post-construction.

### 3.0 ISM IMPLEMENTATION PROGRAM

Attachment III Section B of the Order (USEPA, 1998) indicates that the following documents be prepared for the implementation of ISM.

- Final Design Documents
- Operation and Maintenance Plan (OMP)
- ISM Construction Quality Assurance Plan (CQAP)

### 3.1 ISM Implementation Program for ELA1

Described below is the ISM implementation program at ELA1:

Final Design Document.

Information regarding site preparation activities and the design (i.e., installation of an 18-inch slag cover is provided in **Sections 4.1.** 

- OMP
  - Based on the proposed design, there are no operational tasks required. The only maintenance task necessary is to ensure the slag cover remains intact.
  - The scope of the OMP includes inspection of the slag fill area following completion of Module C and Module D, and limited surveying if warranted, to ensure the 18-inch slag cover remains in place (i.e., the surface remains at or above 607 feet mean sea level [msl]).
  - The inspection will be conducted at a frequency of once every two years.

#### CQAP

During and upon completion of the installation of the slag cover, surveying was conducted to ensure the compacted slag layer meets design specifications (i.e., 18 inch in thickness / minimum elevation of 607 feet msl).

### 3.2 ISM Implementation Program for ELA3

Described below is the ISM implementation program at ELA3:

Final Design Document.

Preliminary information regarding site preparation activities and the design of the storm water retention pond (i.e., removing impacted material, backfilling with slag and installing a water tight liner) is provided in **Sections 4.1.** A final design



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document for ELA-3 is presented as Appendix B to the ISM Work Plan Addendum (USS, 2011a).

### OMP

Based on the proposed design, there are no operational or maintenance tasks required with the removal of impacted material and backfilling actions.

### CQAP

During and upon completion of the excavation and backfilling operations, surveying was conducted to ensure the elevations meet the design specifications (i.e., removal to groundwater, 583 feet msl or hardpan slag and backfill to 590 feet msl (or above) to ensure that the new storm water basin lining is not in contact with groundwater).

Quality Control for the disposal of impacted material from the excavation was addressed in the Request for Disposal at the CAMU which was submitted to the USEPA on June 22, 2011 (USS, 2011b) and approved on July 19, 2011 (USEPA, 2011a).



### 4.0 DESIGN PLANS AND SPECIFICATIONS

The following sections provides a brief summary of the proposed ISM scope of work as outlined in the ISM Workplan (USS, 2010c) and ISM Workplan Addendum (USS, 2011a).

### 4.1 Design Strategy and Design Basis

Presented below are the proposed stabilization measures:

### ELA-1

- 1. Reclaim process material that is usable by the Sinter plant. **Figure 3** shows the surface elevations, based on surveyed data collected as of May 26, 2010.
- 2. Grade the site to achieve the average pre-construction grade of 605.5 feet msl.
- 3. Cover the entire area with 18 inches of slag cover to bring the finish grade to at least 607 feet msl.
- 4. Approximately 65 to 70 percent of the area will also be covered with a concrete slab (approximately 6-8 inches in thickness) to serve as the building foundation, walkway, or paved process areas, based on the proposed facility layout plot plan (**Figure 4**).
- 5. No further action is required beyond those mentioned in this plan according to the results of a risk evaluation conducted using data collected and the planned future use at the AOI (See Section 5.0 of the revised ES RFI Report Addendum [USS, 2010b]). Locations within the CASP area with concentrations of iron and manganese above the conservative screening criteria for the future industrial workers (Figures 5A and 5B) will be under the buildings, pavement, or slag fill post-construction.

### Western Dewatering Area at ELA-3

- 1. Excavate and remove soil to the top of the water table as indicated in Figure 6.
- 2. Cover with slag/fill to bring the elevation of the bottom of the area to at least 590 feet msl. This is 5 feet above the highest groundwater level, estimated to be at 585 feet msl, based on the current groundwater level of 583 feet msl in the ELA3 area and an observed fluctuation of 2 feet.
- 3. Remove excavated material to the Corrective Action Management Unit (CAMU) at the Facility. A *Request to Dispose of RCRA AOC ELA-3 Wastes in the CAMU* was submitted to the USEPA on June 22, 2011 (USS, 2011) and approved on July 19, 2011 (USEPA, 2011a).



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4. Install water tight liner and associated piping infrastructure to construct a facility storm water retention area.

### 4.2 Implementation Status

As indicated in the Monthly Progress Report No. 22 (June 15, 2012), the following ISM activities, as proposed in the ISM Workplan (USS, 2010c) and ISM Workplan Addendum (2011a) have been fully implemented as of May 31, 2012.

### **AOI ELA-1**

- Level C-Module site grade
- Level D-Module site grade
- Installation of C-Module foundations
- Installation of D-Module foundations
- Installation of 18" of slag backfill material

### **AOI ELA-3**

- Excavation of storm water basin
- Installation of storm water retention basin

**Appendix A** presents detailed information with respect to the ISM activities implemented.

- The yard grade elevations at locations throughout the CASP Area after the process material usable by the Sinter Plant was removed and reclaimed are shown on Figure A-1, based on a survey conducted on May 26, 2011. Survey data are presented on Table A-1.
- Mass Excavation Plan for the planned Module Area is shown on Figure A-2.
- The final grade design criteria at the general CASP Area (i.e., at least 607 feet msl) have been met, as indicated by as-built survey data shown on **Figure A-3**.
- Figure A-4 shows as-built elevations of the western dewatering area at ELA-3, based on a survey conducted in December 2011 post-installation. As indicated in the *Interim Stabilization Measures Status and Summary of Post-Excavation Sampling. East Lake SWMA ELA3* was submitted to the USEPA on September 2, 2011 (USS, 2011c), excavation was completed to a bottom elevation of approximately 593.38 feet msl on the western side and 590.5 feet msl on the eastern side. Further excavation to the top of the water table (estimated to be 583 feet msl



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with an observed fluctuation of 2 feet), as indicated in the final design (See **Section 4.1**) is not feasible because of the presence of an underlying hardpan layer.

• **Photos A-1** through **A-3** show the installation of water-tight liner and concrete storm sewer outfall at the Western Dewatering Area at ELA-3 in February 2012.



### 5.0 HEALTH AND SAFETY PLAN

As indicated in **Section 4.1**, manganese and iron are the only chemicals in soil samples collected at several locations within the AOI at ELA-1 that were detected at concentrations above the construction worker screening values. In addition, manganese is the only chemical detected in one soil sample collected within the footprint of the western dewatering area at ELA-3 at a level above the construction worker screening value. Risks to construction workers potentially posed by manganese and iron in soil will be effectively mitigated by the use of typical construction procedures such as dust suppression.

It should be noted that the Facility's Fugitive Dust Plan, developed to be in compliance with Indiana Department of Environmental Management rule 326 IAC 6-1-11.1, has been implemented on a year round basis since 1993 to control emissions of particulate matter with an aerodynamic diameter of 10 microns or less (PM-10). Emissions of PM10 from roadways, open areas, and parking lots are controlled by scheduled sweeping, high pressure water flushing, or application of dust suppression chemical. The routine implementation of the Fugitive Dust Plan helped in reducing the amount of windblown particulates that may have been generated from excavated or unpaved areas during the construction activities.

### 5.1 Contractor Health and Safety Plan

To meet Condition 5 of the Conditional Approval Letter, a contractor's Health and Safety Plan (TTL, 2010) was submitted in August 2010 to provide information regarding the procedures to be implemented at ELA-1 to protect workers from exposure to particulates and dusts during construction activities and prior to installation of the 18-inch slag cover.

### 5.2 Air Monitoring

As documented in Monthly Progress Reports No. 1 (September 15, 2010) and No. 2 (October 15, 2010), personal air exposure samples were collected in August and September 2010 during subsurface excavation activities to evaluate concentrations of manganese and iron construction workers were exposed to. In addition, ambient air samples were collected to evaluate concentrations of total particulates. The results of the air monitoring indicated that additional air monitoring was not warranted because the measured concentrations of manganese and iron were significantly below Occupational Safety and Health Administration's (OSHA's) Threshold Limit Value (TLV) and measured concentrations of particulates, collected from both up- and downwind locations, were significantly below OSHA's Permissible Exposure Limit. Detailed information regarding the methodology used



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and the results of the air monitoring is provided in Attachment B to Monthly Progress Report No. 2 (October 15, 2012).



### 6.0 SAMPLING ACTIVITIES DURING ISM

This section presents data collected during the implementation of ISM.

### 6.1 Sampling at ELA-1

### 6.1.1 Proposed Sampling Plan

No additional soil sampling was proposed at ELA-1 in the ISM Workplan as part of the implementation because:

- As discussed in Section 4.1, the future industrial workers at the CASP Area are not
  expected to be exposed to chemicals detected in soil, fill, and process materials
  because potential exposure will be limited to the slag that will be placed in the area
  prior to construction.
- A Health and Safety Plan was implemented to protect potential exposure by construction workers (**Section 5.1**).

### 6.1.2 Sampling Activities Completed

### 6.1.2.1 Chemical Analysis of Slag to be Used as Cover Material

Slag samples were collected on July 21, 2010 for chemical analysis to meet Condition 7 of the Conditional Approval Letter. The results of this analysis (presented as Attachment A to the Monthly Progress Report No.1) indicate that slag does not pose any adverse impacts to human health and the environment and is, therefore, a suitable cover material.

### 6.1.2.2 Sampling of Visually-Impacted Material

As described in the Monthly Progress Report No. 2 (October 15, 2010), visually-impacted material was encountered on September 10 (during utility trench excavation along the southwest side of the CASP area) and 21 (during road rack installation along the south-southwest side).

- All visually-impacted soil was excavated (removed) to a depth of about 5 feet. Both areas were then backfilled with clean slag prior to work continuing.
- Five soil samples were collected on September 23 and sent to the TestAmerica Laboratories, Inc. (TestAmerica) for the analysis of the following: Appendix IX volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs),



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polychlorinated biphenyls (PCBs), metals, hexavalent chromium, lithium, cyanide, and sulfide.

 Samples from the roll off boxes were sent to TestAmerica for the Toxicity Characteristics Leaching Procedure (TCLP) analysis.

All visually-impacted soil was excavated to up to 5 feet below surface and the excavated areas have been backfilled with clean slag. Therefore, residual concentrations of chemicals detected in soil samples collected from the bottom of the excavated areas do not pose any adverse health effects to the future industrial workers and the current or potential future construction workers.

### The TCLP results indicated that:

- Barium was the only chemical detected in the TCLP analysis and the detected concentrations (0.35 mg/L and 0.19 mg/L) was below the regulatory level of 100 mg/L.
- Excavated soil did not meet the definition of Extraction Procedure (EP) toxicity as defined under RCRA.

The material removed from each area was handled in accordance with applicable regulations.

Detailed information with respect to the laboratory analytical data is provided in the Monthly Progress Report No. 3 (Table 1 for Appendix IX analysis and Attachment 1 for the TCLP).

### 6.2 Sampling at ELA-3

### 6.2.1 Pathway Analysis

Based on the construction plan for the storm water retention pond, the only samples proposed in the ISM Workplan (USS, 2010c) and ISM Workplan Addendum (USS, 2011a) at ELA-3 were a few soil samples from the bottom and sidewalls of the excavation to provide information concerning residual chemicals that remain in place prior to backfilling and liner installation because:

- There are no complete direct exposure pathways to chemicals in soil at the western dewatering area within ELA-3 following the proposed excavation and construction of a storm water retention pond for the CASP Area.
- The potential for chemicals in storm water to migrate to soil or groundwater at the western dewatering area is deemed low due to the proposed filling of the excavated area with a 5-foot layer of slag and the installation of a water-tight liner.



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### 6.2.2 Proposed Sampling Plan

This section provides a brief summary of the sampling plan presented in Section 5.3 of the ISM Workplan Addendum (USS, 2011a).

### 6.2.2.1 Media and Chemicals of Interest

The environmental media of interest for the ISM were slag/urban fill and soil at ELA-3.

### 6.2.2.2 Pre-excavation Sampling

Presented below is a brief summary of the pre-excavation sampling conducted and the results of the laboratory analyses:

- A pre-excavation sampling event was conducted on April 14, 2011 at the western
  dewatering area to characterize the nature of constituents. Five soil samples (four
  environmental samples and one quality control sample) were collected at four
  locations (between 1 to 3 feet below surface) from the bottom of the western
  dewatering area. Soil samples were analyzed for Facility-specific Appendix IX
  parameter groups (i.e., VOCs, SVOCs, and total inorganics), hexavalent chromium,
  lithium, and Floyd Brown analytes.
  - The analytical data from ELA-3 collected in April 2011 and in February 2004; i.e., at EL-SB0057 during the East Lake SWMA Phase I RFI, were used in the evaluation of chemical similarity / compatibility between materials at the ELA-3 and the previously disposed dredge sediments at the CAMU.
- One of the samples was also analyzed using the Synthetic Precipitation Leaching Procedure (SPLP): *i.e., the test* designed to evaluate the potential for leaching chemicals into ground and surface waters.
  - The SPLP results were compared to constituent concentrations detected in CAMU leak detection and leachate samples, groundwater samples collected from the vicinity of ELA-3 and GSE Lining Technology, Inc.'s maximum constituent concentration data for 60-ml HDPE geomembrane (i.e., the liner comparable to the CAMU liner).

Detailed information with respect to the pre-excavation sample analyses and evaluation is presented in the *Request to Dispose of AOC ELA-3 Materials in the Corrective Action Management Unit*, submitted to the USEPA on June 22, 2011 (USS, 2011b). The request was approved on July 19, 2011 (USEPA, 2011a).



### 6.2.2.3 Confirmation Sampling Activities Completed

Presented below is a brief summary of the post-excavation sampling conducted and the results of the laboratory analyses:

- Soil samples were collected from nine locations (four floor and five sidewall locations)
  on August 12, 2011 to document residual chemicals that remain in place to
  backfilling and installation of the storm water retention area.
- Samples were analyzed for Appendix IX VOCs, SVOCs, PCBs, total inorganics, hexavalent chromium, and lithium.
- The analytical data were compared to the site-specific screening levels (SSLs) derived as part of the Phase I RFI activities at the Facility using conservative approach, the Indiana Department of Environmental Management (IDEM) Risk-based System of Closure (RISC) values for industrial sites for the potential construction worker exposure and migration to groundwater pathways.
  - Exceedances of SSLs--several VOCs, SVOCs, PCBs, and inorganics.
  - Exceedances of RISC value for the construction worker—lead (in one sidewall sample (EL-ELA3-SWALL 1).
  - Exceedances of RISC value for the migration to groundwater pathway Benzene, arsenic, total chromium, and lead.
- A comparison of chemicals detected in groundwater samples collected from monitoring wells upgradient and downgradient of the ELA-3 western dewatering area was conducted to evaluate if residual chemicals remained in place may act as a potential source to groundwater impacts. The results of the evaluation indicated that:
  - Concentrations of SVOCs and inorganics in shallow and deep groundwater samples were comparable in the upgradient and downgradient monitoring wells.
  - Although concentrations of benzene in groundwater were higher downgradient of ELA-3, the source of benzene impacts to groundwater impacts has been identified within the Coke Plant SWMA, upgradient of ELA-3. Therefore, the higher downgradient benzene concentrations are not attributable to ELA-3.

A letter report entitled *Interim Stabilization Measures Status and Summary of Post-Excavation Sampling. East Lake SWMA – ELA3* was submitted to the USEPA on September 2, 2011 (USS, 2011c) to present the sampling results and a request to proceed



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with the next stages of the retention pond installation. The Approval to Proceed letter was issued by the USEPA on September 20, 2011 (USEPA, 2011b).

### 6.3 Investigation- derived Waste

Wastes generated during sampling, including soil cuttings, purge water, decontamination liquids and other debris will be handled in accordance with the procedures outlined in Standard Operating Procedure (SOP) F504 in Appendix F of the program QAPP (USS, 2009b).

On June 22, 2011, USS submitted a revised request to place investigation derived waste (IDW), including any remediation waste, generated during the ISM activities at ELA-3 into Unit 2 of the CAMU (USS, 2011b). This request was approved by the USEPA on July 19, 2011 (USEPA, 2011a).

Detailed information with respect to the disposal of materials generated at the western dewatering area of ELA-3 during the implementation of ISM activities is presented in the *CAMU Operation and Maintenance 2011 Annual Report*, submitted on July 2, 2012 (CAMU 2011 Annual Report", USS, 2012), Between August 3 and 9, 2011, approximately 4,218 cubic yards (13,160,549 pounds) of materials excavated from the western dewatering area of AOC ELA-3 were placed within the northwest portion of CAMU Unit 2. Table 2 of the CAMU 2011 Annual Report presents the analytical data of ELA-3 materials that were used in the calculation of mass of constituents placed in Unit 2 of CAMU.



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#### **CONCLUSIONS** 7.0

This ISM Implementation Report was prepared to document that all proposed ISM activities at the AOI ELA-1 and AOI ELA-3 have been fully implemented, as discussed in **Section 4.3**. Submittal of this report meets the requirements in Attachment III. of the Order and the schedule in Table 1 of the ISM Workplan.

### 8.0 REFERENCES

- TTL Associates, Inc. (TTL), 2010. U. S. Steel Gary Works Strategic Coke Improvement Project. Health and Safety Plan to Manage Potential Exposure to Manganese and Iron at U. S. Steel Gary Works. August 2010.
- United States Environmental Protection Agency (USEPA). 1998. Corrective Action Order Pursuant to Section 3008 (h) of RCRA. U. S. Steel Gary Works, IND 005 444 062. October 1998.
- USEPA, 2002. Supplemental Guidance for Developing Soil Screening Levels. Office of Solid Waste and Emergency Response, OSWER 9355.4-24. December 2002.
- USEPA, 2010. East Side Conditional Approval Letter. U. S. Steel Gary Works. January 26, 2010.
- USEPA, 2011a. Request to Dispose of Remediation Waste, ELA-3 Wastes. July 19, 2011.
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# Interim Stabilization Measures Workplan – East Lake SWMA Areas of Interest at ELA-1 and ELA-3

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